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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/894,114

06/29/2001

William Anders Peterson

13369 (52AY1379)

6262

7590

12/12/2003

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EXAMINER

MULLINS, BURTON S

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 12/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/894,114

Applicant(s)

PETERSON ET AL.

Examiner

Burton S. Mullins

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-11 and 13-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10 is/are allowed.
- 6) ☒ Claim(s) 2,7-9,11 and 13 is/are rejected.
- 7) ☒ Claim(s) 3-6 and 14-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 14 is objected to because of the following informalities: Change "hold" to -hole-. Appropriate correction is required.

Response to Arguments

2. Applicant's arguments with respect to claims 2, 7-9, 11 and 13 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Butman et al. (US 4,385,252). Butman teaches a rotating machine comprising: a stator 16 having a plurality of field winding slots 24 (Figs.1-2); a plurality of field windings 30 disposed in each of the field winding slots, the plurality of field windings comprising: an outer jacket 60 of U-shaped cross section only partially contiguous with walls of the field winding slots (Fig.5; c.4, line 62-c.5, line 5); an a plurality of conductive wires 32 disposed within the outer jacket such that longitudinal passages comprising water passages 38 are defined therebetween (Fig.3); and

circulation means for circulating a coolant into and from the rotating machine through the longitudinal passages 38 (inherent to water cooling described at c.3, lines 43-45).

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 2, 7, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emery et al. (US 5,175,396) in view of Denk (US 4,908,347). Emery teaches a high voltage dynamo-electric machine with Roebel windings comprising: a stator 11 having a plurality of field winding slots 9 (Fig.2); a plurality of field windings 1 disposed in each of the field winding slots, at least two of the field windings 1 are comprised of: an outer jacket (wall structure) 7; a plurality of conductive wires or strands 4 disposed within and enclosed by the outer jacket 7 such that longitudinal (ventilation) passages 5 are defined therebetween (Fig.2); and a means for circulating a coolant into and from the machine through the ventilation passages 5 (not shown, inherent, since the ventilation passages conduct a heat-dissipating gas, e.g. hydrogen; c.3, lines 44-46). Emery does not teach details of the stator housing with first and second plenums.

Denk teaches an AC dynamo-electric machine including: a stator 14 inside a machine housing 10 including sections 18/20/22 (Fig.1), the housing having a cavity for acceptance of the stator therein (Fig.1), the housing and stator defining first and second plenums (defined by the space near respective coolant inlet and outlet ports 24/26 or "manifolds" 70/72) at first and second ends of the stator (Fig.1), the coolant entering the rotating machine into the first

plenum and exiting the rotating machine at the second plenum (c.2, lines 64-67). Denk's ports and manifolds provide coolant flow to the stator windings 40 (c.3, line 54-c.4, line 3).

It would have been obvious to modify Emery and provide a housing and stator with first and second plenums per Denk since they would have been desirable to provide coolant flow to the stator windings.

Regarding claim 7, each field winding in Emery has the outer jacket 7 and longitudinal passages 5.

Regarding claim 9, Denk teaches circular cross-section "Litz" conductors (Fig.5; c.4, line 4-c.5, line3).

Regarding claim 11, a film of epoxy resin, for example, covers the conductive strands 4 (c.4, lines 21-25).

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Emery and Denk as applied to claim 2 above, and further in view of Shildneck (US 3,014,139). Emery and Denk teach an insulating wall structure or outer jacket, but do not teach one made from an elastomer, per se.

Shildneck teaches a flexible cable winding including cooled conductor strands 6 surrounding by a silicone ground insulation 8, thus providing a flexible cable which may be easily bent (c.4, lines 40-46).

It would have been obvious to form the outer jacket of Emery and Denk from an elastomer per Shildneck since this would have been desirable to impart flexibility to the winding.

Allowable Subject Matter

8. Claims 3-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Regarding claims 3 and 4, the prior art, in particular Emery and Denk, does not teach at least one entry or exit hole in the outer jacket which provides communication between longitudinal passages and first and second plenums, respectively.

9. Claim 10 is allowed. The prior art does not teach the claimed windings including, inter alia, conductive wires wound within the outer jacket to form helical shaped longitudinal passages. The passages in Emery and Denk appear to comprise straight, axially-extending passages. In Shildneck, the strands 6 are transposed and spiral, but it is not clear that the interior coolant conduits 9 would also spiral, since they are central conduits, i.e., they are concentric with the conductor axis.

10. Claims 14-17 are allowed pending amendment to overcome the objection noted above. The prior art does not teach, in combination with other elements, an outer jacket with entry and exit holes formed in a sidewall thereof, with at least one of the longitudinal passages in fluid communication with the entry and exit holes.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 305-7063. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.



Burton S. Mullins
Primary Examiner
Art Unit 2834

bsm

28 November 2003